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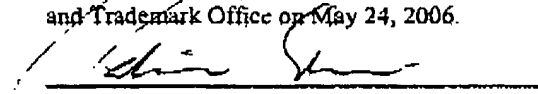
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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BOARD OF PATENT APPEALS AND INTERFERENCES**

Appellant(s): Kazunori KISHIMOTO  
Serial No.: 10/083,447  
Filed: February 26, 2002  
For: METHOD OF TESTING A SEMICONDUCTOR  
INTEGRATED CIRCUIT AND METHOD AND  
APPARATUS FOR GENERATING TEST PATTERNS  
Examiner: John P. Trimmings  
Group Art Unit: 2138  
Attorney Docket No.: NEKO 19.481 (100806-00091)

May 24, 2006

**REPLY BRIEF FOR APPELLANTS**

Board of Patent Appeals and Interferences  
Assistant Commissioner for Patents  
Washington, D.C., 20231

Sir:

This Reply Brief for Appellants is submitted in response to the Examiner's Answer  
mailed March 27, 2006. All requisite fees may be charged to Deposit Account No. 50-1290.

**I. Revised grounds of rejection to be reviewed on appeal**

1. Whether or not claims 1-4, 6-11, and 13-15 are unpatentable under 35 U.S.C. § 103(a) based on the AAAPA in view of the Chen reference.
2. Whether or not claims 5, 12, and 16-18 are unpatentable under 35 U.S.C. § 103 based on the AAAPA in view of the Chen reference and further in view of the Merrill Patent.
3. Whether or not claims 14-16 are unpatentable under 35 U.S.C. § 101 as being directed to non-statutory subject matter.

**II. Argument****1. Whether or not claims 1-4, 6-11, and 13-15 are unpatentable under 35 U.S.C. § 103(a) based on the AAAPA in view of the Chen reference.****a. There is no motivation to combine the AAAPA and the Chen reference**

The Examiner's response to the arguments presented in Appellants' Appeal Brief provides no additional support for the argument that the motivation is improper. The Examiner does not provide a motivation for a person with knowledge of the Chen reference to look to the Applicant's Allegedly Admitted Prior Art (AAAPA), or vice versa.

As discussed previously, the AAAPA relates to checking a delay fault in a semiconductor integrated circuit utilizing flip flops and comparisons using a scan path. However, the AAAPA explicitly limits the teaching therein to measuring propagation delays. In fact, the AAAPA teaches away from using a scan path technique for any purpose other than measurement paths.

As the AAAPA states:

*In the conventional delay test (AC test that uses the scan path) described above, a pattern associated with the signal having the logic value of "1" input to the input terminal of the NAND 22 in FIG. 6 is provided **only to the measurement path and the path for activating the measurement path. In performing the test, no signals are set for the paths other than those.***

(Specification; page 12, lines 8-13; emphasis added). Similarly, the AAAPA teaches away from a modification of the method discussed therein at:

**The Delay\_test ATG 204 that automatically generates delay test patterns generates the delay test patterns 205 *on the basis of the measurement path information alone. In the Delay\_test ATG 204, the mechanism for generating patterns for the paths other than the measurement path is not installed.***

(Specification; page 13, lines 3-7; emphasis added). The AAAPA clearly teaches away from any modification of the method described therein. The method described in the AAAPA is explicitly limited to the situation described therein, and teaches away from a combination with any other reference.

The Examiner relies on the Chen reference, which apparently discusses analyzing propagation delays due to cross-talk influences, and discusses advantages due to testing for cross-talk, as providing the necessary motivation to combine the references. (See Examiner's Reply Brief; page 9, section 10). The Examiner merely recites some of the motivations provided in the Chen reference for testing for cross-talk, including avoiding signal noise and skew, and avoiding an expensive redesign process. However, none of these purported motivations provide any reason for someone having knowledge of the Chen reference to look to the AAAPA, or further to modify the AAAPA to arrive at a new testing regimen. The Chen reference does not provide any motivation to combine the teaching therein with the AAAPA, and the AAAPA teaches away from combination with any reference other than testing of a measurement path.

Therefore, since there is no motivation to combine the references, the rejection is improper.

**b. Neither the Chen reference nor the AAAPA discloses or suggests comparing a value of a flip-flop receiving a signal outputted from an output end of a measurement path under the influence of crosstalk with an expected value.**

All of the independent claims 1, 3-5, 7-12, and 14-16 include a feature of "comparing a value of a flip-flop receiving said signal outputted from an output end of said measurement path under the influence of crosstalk with an expected value" (Claims 1, 7, 8, 9, 10, 14), or a similar feature. The Examiner provides no additional argumentation that the combination of the references discloses the feature of comparing the value of a flip-flop receiving a signal influenced by crosstalk.

The Examiner's combination of the references merely inserts "cross-talk", as supplied from the Chen reference, into the AAAPA. It is respectfully submitted that this selective combination avoids examining the claims as a whole, and is therefore improper.

In view of the foregoing, it is respectfully submitted that claims 1-4, 6-11, and 13-15 are patentable over the AAAPA in view of the Chen reference for at least the above-stated reasons.

**2. Whether or not claims 5, 12, and 16-18 are unpatentable under 35 U.S.C. § 103 based on the AAAPA in view of the Chen reference and further in view of the Merrill Patent.**

**a. There is no motivation to combine the AAAPA and the Chen reference**

The Examiner does not provide a response to the argument presented in Appellants' brief directed to the lack of motivation to combine the Merrill reference with either of the AAAPA or the Chen reference. It is respectfully submitted that the previously presented motivation, that "[o]ne with ordinary skill in the art at the time of the invention, motivated as suggested, would have found it obvious to combine the teachings of Merrill in order to measure the effects of the clock on the circuit of the prior art above." (Office Action of August 17, 2004; page 6, lines 2-5), is conclusory and therefore insufficient to support a claim of obviousness. The Merrill Patent

apparently discusses a clock skew measurement technique. There is no motivation in the Merrill Patent to suggest combination with the testing regimen discussed in the AAAPA or the test generation for cross-talk discussed in the Chen reference. Therefore, since there is no motivation to combine the references, the rejection is improper.

**b. None of the Chen reference, the AAAPA, nor the Merrill patent discloses or suggests comparing a value of a flip-flop that samples the signal of an end terminal of said measurement path with an expected value, thereby measuring a delay time in said measurement path.**

The Merrill reference is not relied upon by the Examiner as disclosing the feature of "comparing a value of a flip-flop that samples the signal of an end terminal of said measurement path with an expected value, thereby measuring a delay time in said measurement path" (Claim 5), or any of the similar features recited in the other base claims. The Examiner admits that the Merrill Patent is relied on only to make up the deficiency of the teaching in the AAAPA and the Chen reference of "applying a signal to a path that influences crosstalk to the measurement path by affecting a clock." (Office Action of August 17, 2004; page 5, lines 17-19). Therefore, since the AAAPA and the Chen reference fail to teach this feature, claims 5, 12, and 16-18 are patentable over the AAAPA in view of the Chen reference and further in view of the Merrill Patent for at least the above-stated reasons.

**3. Whether or not claims 14-16 are unpatentable under 35 U.S.C. § 101 as being directed to non-statutory subject matter.**

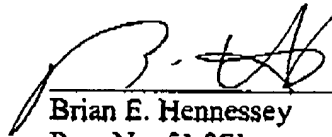
The Examiner provides a new ground of rejection of claims 14-16, rejecting the claims under 35 U.S.C. 101 as directed to non-statutory subject matter. The Examiner asserts that the method is non-statutory because it is not embodied in an electronic media or other "thing". However, these claims are directed to a computer program *product*, which is a thing. The

product is a thing, and the case cited by the Examiner (In Re Grams, 888 F.2d 835) has been interpreted narrowly by other courts (see, e.g., AT&T v. Excel Communications, 172 F.3d 1352 (Fed. Cir. 1999)). The AT&T Court held that the mathematical algorithm exception to statutory subject matter, as used by the Grams Court, is limited to pure mathematical algorithms and abstract ideas, and that the scope of patentable subject matter is broad and includes anything that provides a useful and tangible result. Claims 14-16 are directed to a product that provides the useful and tangible result of testing for crosstalk, and therefore the claims are directed to statutory subject matter and the rejection should be withdrawn.

### CONCLUSION

Claims 1-4, 6-11, and 13-15 are patentable over the AAAPA in view of the Chen reference, claims 5, 12, and 16-18 are patentable over the AAAPA in view of the Chen reference and further in view of the Merrill Patent, and claims 14-16 are directed to patentable subject matter. Accordingly, it is respectfully submitted that the Examiner erred in rejecting claims 1-18 and a reversal of such rejections by this Honorable Board is solicited.

Respectfully submitted,

  
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